

ON A COLLECTION OF SYRPHIDS FROM QUEENSLAND WITH DESCRIPTIONS OF A NEW GENUS AND OF EIGHT NEW SPECIES.

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(Plate X.)

THROUGH the kindness of Mr. Heber A. Longman, Director of the Queensland Museum, Brisbane, I got about two years ago an interesting collection of Syrphids from that country. They were collected by Mr. H. Hacker. During the long journey some specimens, however, were quite damaged, so that they could not be included in the following list.

PSILOTA Meigen.

Of this genus the collection contains at least four species, three of which are new to science. They are all wanting the vena spuria or it is extremely indistinct.

In the diagnosis of the genus, Meigen (System. Beschreib., III, 256, 1822) does not mention the vena spuria. In fig. 20 on plate 29 he figures the genotype, *Ps. anthracina* Meig., but no vena spuria is to be seen in that figure. As, however, it is also wanting in many other of Meigen's figures, where it ought to have been drawn, this circumstance is of no significance. Macquart (Hist. nat. des Ins., Dipt., Suites a Buffon, I, 1834) also gives a figure of this species, fig. 19, plate 12. Here the vena spuria is very prominent; but as generally his figures are more or less incorrect, we cannot rely upon this figure.† Williston (Synopsis. North Amer. Syrphids, 1886) says: "False vein obsolete," and Verrall (Brit. Flies, VIII, 1901): "Vena spuria very faint." I myself have not seen any specimen of *Ps. anthracina*.

1. PSILOTA VIRIDIS Macq.

Dipt. exot., Suppl. 2, 62, 1847, Pl. ii, fig. 12.

2 ♀♀; Brisbane, 26-9-1916 and 7-11-1917.

2. PSILOTA RUBRA n. sp.

♀. Eyes with short white hairs. Antennæ brownish, 3rd joint above blackish, somewhat elongate. Vertex and frons black with bluish tinge; the former with black, the latter with short white hairs and an indistinct longitudinal

* EDITOR'S NOTE.—I regret to state that Dr. A. Klöcker has passed away since this paper was written. This information was received in correspondence from Dr. K. L. Henriksen, of the Zoological Museum, Copenhagen.

† In the said fig. 19 the marginal crossvein goes directly to the margin of the wing, instead of going to the 3rd longitudinal vein and uniting with it.

furrow. Cheeks with whitish hairs. Mouth rather protruding. Thorax and scutellum bluish black; the latter with a distinctly marked, elevated margin. Abdomen red or yellowish red, with short white hairs. Front and middle legs yellow, except the two last joints of tarsi, which are brownish. Hind legs: femora rather thickened, below with somewhat strong short bristles; they are black, or only the distal half is black, the proximal half yellowish; tibiae somewhat curved, brownish; tarsi brownish, metatarsi dilated. Wings hyaline; stigma and the subcostal cell yellowish. The marginal crossvein and the 4th longitudinal vein are forming an obtuse angle, the top of which has a little spur. Alulae white, with very long marginal hairs. Halteres white. Long. 6-7 mm.

2 ♀♀; Brisbane, 12-9-1916 and 26-9-1916.

This species cannot be confounded with any other species on account of its red abdomen.

3. *PSILOTA TRISTIS* n. sp.

♀. Quite black with a faint bluish tinge. Eyes with not very long white hairs, especially on the lower two-thirds of the eye. Antennae: the first two joints black, the 3rd brownish black, somewhat elongate. Vertex and frons with blackish, rather short hairs, the latter with a faint longitudinal furrow. Face and cheeks with white hairs. Mouth much protruding. Thorax with short black hairs, especially on the front part, and with white hairs on the sides. Scutellum with a distinctly marked elevated margin with a few bristles. Abdomen with rather short greyish hairs, especially on the side margins. Legs black, the knees brownish; front and middle tibiae in the proximal half brownish. Hind femora only a little thickened, with short bristles below. Wings with a faint greyish tinge. The marginal crossvein as in *Ps. rubra*. Alulae white, halteres yellow. Long. 8 mm.

1 ♀; Brisbane, 26-9-1916.

It differs from *Ps. coerulea* Macq. in the colour of the abdomen, in having the two first joints of the antennae black (in *coerulea* they are "fauves"), and in the shape of the hind femora, about which Macquart in his description of *coerulea* says: "cuisses postérieures renflées, avec une échancrure près de la base."

4. *PSILOTA HIRTA* n. sp.

♀. Quite black, with a very faint dark bluish tinge. Eyes with long white hairs, especially on the lower half. Antennae blackish brown; the 3rd joint somewhat elongate. Vertex and frons with rather long blackish brown hairs; the latter with a very faint, almost not visible longitudinal furrow. Face blackish, greyish pruinose. Mouth rather protruding. Thorax with blackish brown hairs on dorsum and with white hairs on the sides. Scutellum with yellowish grey hairs. Abdomen densely pubescent of yellowish grey hairs, especially on the side margins, where they are more whitish. On the side margins of the 1st and 2nd segments the hairs are much longer. Femora blackish

with brown knees; front and middle tibiæ and tarsi brownish; hind tibiæ and tarsi blackish. The hairs on the legs whitish or greyish. Alulæ whitish, halteres greyish. Wings with brownish tinge. Long. 8 mm.

1 ♀; Brisbane, 20-9-1916.

This very hairy species is easily distinguished by its brownish wings.

EMMYIA n. gen.

♂. Eyes strongly hairy. Eye suture at least three times as long as vertical triangle. 3rd joint of antennæ about twice as long as broad. Frons not conically protruding (difference from *Pipiza*). Epistoma not hollowed below the antennæ and without central knob. Front mouth edge only a little protruding. The upper marginal crossvein slightly curved and with the upper angle acute (difference from *Pipizella*). Middle crossvein before mediastinal vein; it is perpendicular on 3rd and 4th longitudinal vein and very near base of discal cell (the distance from base is as long as the length of the middle crossvein itself). Genitalia very small (difference from *Penium*). Middle coxæ and hind trochanteres without spine (difference from *Cnemodon*). Hind femora not thickened. Vena spuria rather distinct. The whole body densely haired.

Genotype: *Emmyia queenslandica*.

The genus belongs to the *Pipiza* group, and is chiefly agreeing with *Penium*.

5. EMMYIA QUEENSLANDICA n. sp. Fig. 1, Plate X.

♂. Eyes with very long pile; the hairs on the upper half greyish brown, on the lower half whitish. Antennæ blackish; the 3rd joint somewhat elongate. Arista bare, a little longer than the 3rd joint, at the base of which it is inserted. Head broader than thorax. Vertical triangle rather little, with long black hairs; frons shining black in the middle and with very long black hairs here; on the sides with grey down. Epistoma and cheeks with grey down and longer hairs of the same colour; in the middle of the face from the antennæ down to the mouth a blackish shining stripe; front parts of mouth and its environs shining black. Thorax and scutellum shining black, finely punctate, with long greyish hairs, especially on the sides and the margin of scutellum, which is distinctly marked and elevated. Abdomen black, punctate, shining; on the sides of 1st, 2nd and 3rd segment with long whitish hairs; on the sides of the following segments the hairs are mingled with darker ones; on dorsum all hairs are black, rather short, so that dorsum looks velvet black. Legs black, the knees and tibiæ pitchy, with long and short white hairs. Hind femora not thickened. Alulæ whitish, halteres yellow. Wings hyaline, with a faint brownish tinge on the costal part. Long. 10 mm.

1 ♂; Brisbane, 24-9-1918.

MELANOSTOMA Schiner.

6. MELANOSTOMA APICALE Big.

Annal. Soc. Entom. France, sér. 6, IV, 85, 1884.

2 ♂♂; Brisbane, 3-4-1917.

They agree perfectly with Bigot's description. He refers with doubt the species to *Melanostoma*, but there is no doubt about that it belongs to this genus. The species was hitherto only known from New Caledonia.

SYRPHUS Fabricius.

7. SYRPHUS VIRIDICEPS Macq.

Dipt. exot., Suppl. 2, 61, 1847.

4 ♂♂; Brisbane, 24-7-1914 and 10-10-1916.

Macquart's description is rather short; de Meijere has therefore (*Tijdschr. v. Entom.*, LI, 299, 1908) given a supplement to it. Macquart says: "Pedibus fuscis, genibus flavis," de Meijere: "Vordere Beine gelb, die Schenkel an der Wurzel, die Vorderschenkel fast bis zur Mitte schwarz, auch die Tarsen dunkler, bräunlich, desgleichen die Vorderschienen oben an der Spitze. Hinterbeine schwarzbraun, die äusserste Spitze der Schenkel und die Schienenwurzel gelb." Thus, the two descriptions do not quite agree. In my specimens the two front and the two middle legs are yellow with the basal half of the femora black; for the rest as de Meijere says. According to this author the pile on thorax is yellow; in my specimens it is grey. For the rest the description agrees with my specimens, so I think they belong to this species.

8. SYRPHUS sp.

1 ♀; Brisbane, 10-3-1912.

I have not been able to identify this species.

9. SYRPHUS BALTEATUS de Geer, var. ALTERNANS Macq.

Dipt. exot. II, 2, 89, 7, 1842.

2 ♀♀; Brisbane, 19-4-1918.

SPÆROPHORIA St. Fargeau and Serville.

10. SPHÆROPHORIA KERTESZI n. sp.

♂. Antennæ yellow. Face yellow, sides somewhat opalescent; facial tubercle brownish; mouth parts brown. Thorax: dorsum shining greenish black, with very indistinct greyish longitudinal stripes on middle; the yellow side margins continuous to the scutellum; pleuræ whitish yellow. Scutellum yellow, with yellow hairs. Abdomen: 1st segment black, 2nd segment black, with a straight, broad, dark yellow transverse band, going close along the hind margin, only leaving a narrow black space. The other segments dark yellow or brownish yellow, brownish towards the end. Venter brownish yellow, darker behind. All legs light yellow, hind tarsi brownish. Wings somewhat greyish. Long. 7.9 mm.

The male genitalia rather small. Abdomen somewhat longer than the wings.

3 ♂♂; Brisbane, 15-11-1916.

I have pleasure in naming this species in honour of the famous Hungarian dipterologist Dr. Kertész.

XANTHOGRAMMA Schiner.

11. XANTHOGRAMMA GRANDICORNE Macq.

Dipt. exot., II, 2, 16. Pl. XVI, fig. 7, 1842.

4 ♀♀; Brisbane, 24-9-14 and 4-12-1918.

I have compared these specimens with two others in my collection from Hawaii, and they perfectly agree. Macquart's figure shows no facial tubercle at all, though he writes: "Face jaune, à proéminence peu distincte." He also figures the arista as being about 5 times as long as the 3rd antennal joint. A correct figure is found in Grimshaw: Fauna Hawaiiensis, III, 19, I, pl. II, fig. 7-10, 1901; he gives the profile of the head and a figure of the antenna with the arista inserted about in the middle of the 3rd joint and only half as long as this.

12. XANTHOGRAMMA sp.

1 ♀; Brisbane, without date.

The transverse yellow bands on abdomen are not interrupted in the middle. I have not been able to identify it.

ERISTALIS Latreille.

13. ERISTALIS AGNO Wlk.

List. Dipt. Brit. Mus., III, 630, 1849.

1 ♂; Brisbane, 26-12-1915.

14. ERISTALIS COPIOSA Wlk.

Insecta Saunders, Dipt., I, 249, 1852.

3 ♂♂; Brisbane, 15-9-1916, 16-9-1916, and 26-9-1916, and 1 ♀; Brisbane, 3-10-1916.

The habitat has hitherto been unknown, at any rate until 1909.

15. ERISTALIS FLAVOHIRTA n. sp. Fig. II.

♀. Eyes bare. Antennæ reddish; the 3rd joint suborbicular, brownish above. Arista bare, rather long. Head a little broader than thorax. Vertex black, with dense black pile, continued at each side along the eye margins. Frons with very short yellow hairs, among which long black erect hairs. Face with long whitish yellow hairs. Epistoma with a median black bare stripe, not hollowed below antennal tubercle; mouth not protruding. The hind margin of the head covered with dense yellow pile. Thorax velvet black, densely covered with short yellow hairs and somewhat longer black ones. Pleuræ with long yellowish hairs. Scutellum as thorax but with longer black hairs, especially on the margin, where they are bristle-like. Abdomen as long as head

and thorax together. The ground colour is velvet black. 1st segment with 2 small yellow spots, 1 at each front corner; 2nd segment with 2 great yellow triangular spots, only leaving the hind margin of the segment and an hour-glass shaped spot in the middle black; 3rd segment with 2 yellow subtriangular sidespots, going along the front margin almost until the middle, and along the two-thirds of the side margin, leaving the hind margin and a triangular spot in the middle of the segment black; 4th segment as the 3rd, but the spots are smaller; 5th segment quite yellow. Abdomen is covered with long yellow and black hairs, the former on the yellow parts, the latter on the black ones. The hairs are especially long at the front corners of the 2nd segment. The underside of thorax is black with yellow hairs, and the venter is yellow with long yellow hairs. Front legs: femora reddish with or without a brown base; tibiæ dark brownish or blackish. Middle legs: femora yellowish, with long whitish hairs; tibiæ brownish black or proximally reddish; tarsi brownish black. Hind legs: quite brownish black, or femora with reddish base, not thickened. The proximal half of the wings with a brownish tinge. Long. 8 mm.

2 ♀♀; the labels are marked: Hamlyn-Harris, Dunk Island, May 1914.

This species is a very characteristic one; head, thorax, and scutellum look as if they were powdered with yellow. The abdominal spots are of a bright lemon-yellow colour.

16. *ERISTALIS HERVE-BAZINI* n. sp. Fig. III.

♀. Eyes bare, with many small black points, which are confluent on the upmost part of the eye. Antennæ reddish; 3rd joint suborbicular. Arista bare. Head as broad as thorax. Vertex black, with black pile. Frons with grey down and black pile; in the middle a velvet black, short, longitudinal narrow stripe; on each side a velvet black, triangular spot touching the inner eye margin and the upper end of the middle line. Antennal tubercle rather prominent. Face and cheeks with white down. Thorax grey; dorsum with 4 longitudinal opaque black stripes of about equal width; the two middle ones a little nearer to each other than the two lateral ones. Scutellum blackish brown or brown; the broad hind margin yellowish brown, with white pile. Abdomen about as long as thorax and scutellum together. 1st segment grey, the others opaque black with shining hind margins; 2nd segment with a transverse grey band, interrupted in the middle and dilated at the side margin; 3rd segment with 2 trapezoidal grey spots touching the front margin; 4th segment with 2 smaller spots of the same colour and shape; 5th segment with 2 very small spots of the same colour. Fore and middle legs: femora blackish with whitish tips; tibiæ with proximal half whitish, distal half more or less blackish; tarsi with the two first joints yellowish white, the others blackish. Hind legs: femora blackish, the tip somewhat brownish; tibiæ with the proximal half brownish with more or less whitish, and distal half or tip blackish; metatarsi whitish, the next joint a little darker, the others blackish. Wings

hyaline; veins brownish; stigma somewhat greyish, with a small black spot at each end, the proximal one being twice as large as the distal one. Long. 11-12 mm.

2 ♀♀; Brisbane, 3-10-1916 and 4-12-1918.

This very characteristic species, which belongs to the subgenus *Lathyrophthalmus* Mik. is easily distinguished from the related species by the shape and colour of the abdominal spots and the colour of the legs.

I have pleasure in naming this species in honour of the famous French dipterologist M. le prof. Hervé Bazin.

17. ERISTALIS PUNCTULATA Macq.

Dipt. exot., Suppl. 2, 59, 53, 1847.

1 ♀; Duaringa, June, 1917, and 1 ♀; Brisbane, 4-11-1914.

18. ERISTALIS TENAX L.

Syst. Nat., Ed. X, 591, 21, 1758.

1 ♀; Brisbane, 15-11-1918.

HELOPHILUS Meigen.

19. HELOPHILUS GRISEUS Wlk.

Entom. Magaz., II, 472, 1835.

1 ♂; Brisbane, 20-8-1918.

20. HELOPHILUS HILARIS Wlk.

List. Dipt. Brit. Mus., III, 605, 1849.

2 ♀♀; Brisbane, 15-11-1916 and 4-12-1918.

The habitat was hitherto, at any rate until 1909, unknown.

SYRITTA, St. Fargeau and Serville.

21. SYRITTA HACKERI n. sp. Fig. IV.

♂. Eyes facets small, larger in the front part of the eye. Antennæ yellow; 3rd joint ovate. Vertex bluish black, shining. Face almost straight, with whitish yellow down. Thorax blackish, at the front margin with 2 small greyish triangular spots; shoulders and sides pale yellow, the pale yellow extending into a small triangle on the dorsal side; 2 pale yellow, oblong spots at each side of the hind margin. Scutellum blackish, the hind margin a little paler. Abdomen on the dorsal side velvet black on segments 1, 2, and 3; 4th and 5th segments bluish black, shining. 1st segment on the sides below margin yellow; 2nd segment at each side along the side margin with a yellow sub-semicircular spot; on 3rd segment at each side a triangular yellow spot with the groundline on the front margin, where the spots are meeting each other in a point; 4th segment with a very narrow yellow hind margin. Fore and middle legs yellow, the latter with a little black marking at the proximal end of the femora. Hind femora very thick, with several shorter and longer

spines below, some of which are oblique; the femora are reddish, blackish at the tip. Hind tibiae bent at base in an obtuse angle and then curved, with a blunt projection on the inner side a little below middle; they are blackish with a broad reddish ring about in the middle. Hind tarsi brownish; 1st joint dilated. Wings shorter than abdomen; they are hyaline with a somewhat greyish tip. Stigma yellowish grey. Vena spuria very distinct. Long. 11.5 mm.

1 ♂; Brisbane, 12-11-1918.

I have named this species in honour of the entomologist, Mr. H. Hacker, who has collected the specimens named in this list.

22. SYRITTA ILLUCIDA Wlk.

Proc. Linn. Soc. London, IV, 121, 95, 1860.

2 ♂♂; Brisbane, 26-11-1912 and 15-11-1916.

It is with some doubt that I refer this species to *illucida* Wlk. Walker describes, i.e., only the female. My two specimens agree rather well with his description and I therefore identified them as this species. Later on I received from Dr. Kertész the male determined by him. In this specimen, the yellow brownish crossband on the abdomen is not interrupted as in the female. As both my specimens have this crossband interrupted, I am not sure what is the right. Perhaps the species may vary in this direction. I have not seen any description of the male.

S. illucida is known from Celebes and Formosa.

MICRODON Meigen.

23. MICRODON sp. (?)

1 ♂; Caloundra, November, 1912.

24. MICRODON sp. (?)

1 ♀; Stradbroke Island, 17-9-1915.

I have not been able to identify these species as they are rather worn.

Besides the above-named species there are also in the collection 2 *Psilota*, which are too much damaged to be identified or described, and a specimen without a head, which I cannot refer to genus.

Explanation of Plate X.

Fig. 1.—*Emmyia queenslandica* Klöcker. Head from side.

Fig. 2.—*Eristalis flavohirta* Klöcker. ♀ 1.—Head, thorax, and abdomen. 2.—Head from side.

Fig. 3.—*Eristalis Herve-Bazini* Klöcker. ♀ 1.—Thorax and abdomen. 2.—Head from side.

Fig. 4.—*Syritta Hackeri* Klöcker. ♂ 1.—Head, thorax, and abdomen. 2.—Head from side. 3.—Hind leg.



Fig. 1.

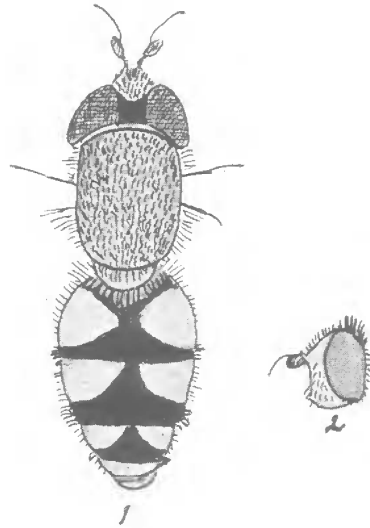


Fig. 2.

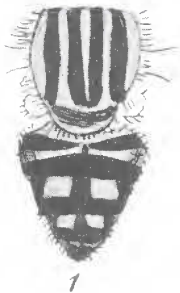


Fig. 3.

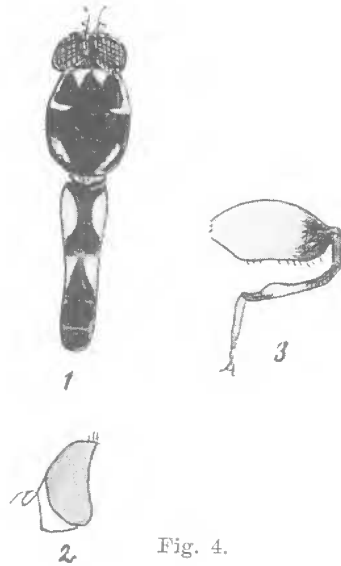


Fig. 4.